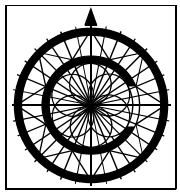

CHEMONICS INTERNATIONAL INC.

IMPACT OF FREE TRADE AGREEMENTS ON AGRICULTURAL SECTOR PERFORMANCE

LESSONS LEARNED: THE CASE OF CHILE AND NAFTA

LESSONS LEARNED: THE CASE OF MEXICO AND NAFTA

THE ENTRY OF SPAIN AND PORTUGAL INTO THE EUROPEAN UNION

LESSONS LEARNED: THE CASE OF SOUTH KOREA AND TAIWAN

RAISE IQC LAC BUREAU POVERTY REDUCTION TASK ORDER
CONTRACT NO. PCE-I-00-99-00003-00, T.O. 06

Submitted to:
USAID/Washington

Submitted by:
Mauricio Perea
Chemonics International Inc.

May 2004

CONTENTS

SECTION I

Lessons Learned: The Case of Chile and NAFTA

A. Background

Chile has long been recognized as an economic reform success story, particularly in Latin America. Although not immune from economic slumps, the country has been able to weather downturns in relatively good shape, especially compared to the upheavals experienced by some of its neighbors. Perhaps more significantly, Chile has been able to post sustained periods of economic growth, enabling Chileans to enjoy higher standards of living and to transition successfully from a military dictatorship to a democracy.[1]

One of the most well-known vehicles for reform in Chile centers on the country's trade policy, as Chile became the first country in Latin America to focus on trade as an engine of economic growth. While many countries and policy makers in the region are focusing on how to improve their competitiveness as a response to trade agreements mandating more open markets, Chile began this process long before it began to negotiate and enter into free trade agreements.

As described by Edwards and Lederman, the Chilean trade reforms began in 1974, under the military government of General Augusto Pinochet. Prior to the launch of the reforms, Chilean import tariffs averaged 105 percent, with exporters to Chile also facing a variety of non-tariff barriers, including outright import prohibitions, prior deposits as high as 10,000 percent and a multiple exchange rate system consisting of 15 different rates. The Pinochet government moved aggressively to lower Chile's trade barriers. Edwards and Lederman describe a series of uniform reductions in tariff rates, as well as non-tariff barriers, highlighted in the following table:

Reductions in Tariff Rates and Non-tariff Barriers

Date	Tariff rates	Other measures
June-August 1976	Average tariff = 33%	Elimination of non-tariff barriers
June 1979	Uniform tariff on all items (except automobiles) = 10%	Exchange rate fixed to US dollar
March 1983-May 1985	Uniform tariff raised to 35%, in response balance of payments crisis, economic contraction	Major devaluation in 1982. Also capital controls.
June 1985	Uniform tariff = 20%	
May 1988	Uniform tariff = 15%	
June 1991	Uniform tariff = 11%	
January 1999	Uniform tariff = 7%	
January 2003	Uniform tariff = 6%. Due to impact of tariff preferences from bilateral trade agreements, effective avg. trade-weighted tariff rate = <3%	

[1] According to one government report, the high economic growth rates, driven by the open trade policies, have lowered the poverty rate from 47 percent of the population in 1989 to 20 percent in 2003 (Ministry of Foreign Relations. General Directorate for International Economic Relations. Free Trade Agreement between Chile and the United States, August 2003).

The lowering of tariffs represented an absolute, concrete repudiation of the import substitution industrialization model, under which local producers did not have to face outside competition and therefore did not have to worry about competitiveness. Chilean producers were forced to become more competitive. For this approach to be successful, however, the Chilean government had to undertake a series of policy initiatives.

Agosin describes export-friendly policies in three areas: macroeconomic, horizontal (i.e., policies affecting all exporters), and sector-specific policies. Macroeconomic policies consisted primarily of exchange- and interest-rate measures that led to the control of inflation and created a stable operating environment for investors and producers. Export-friendly horizontal policies were implemented in the following areas:

- *Export incentives.* Under a drawback mechanism, exporters could recover tariffs paid on imported inputs once the final or subsequent-stage good was exported. A simplified drawback mechanism for small exporters actually served as a subsidy, estimated at a maximum of 6 percent. Since such measures are considered as subsidies by the World Trade Organization (WTO), they were scheduled for elimination at the end of 2002.
- *Policies to promote foreign direct investment (FDI).* Apart from the lowering of investment barriers pursuant to the country's economic opening, Agosin cites the example of debt-equity swaps, in effect from 1985 to 1991. Sixty percent of the investments carried out through this vehicle were in manufacturing and agriculture, mostly forestry, paper and pulp. About 40 percent of all FDI during this period was via debt-equity swaps.
- *Market information.* The government made major investments in this area, highlighted by the ProChile division of the Ministry of Foreign Relations. ProChile, through 32 foreign offices, conducts market studies and compiles information useful for exporters, which it disseminates locally. It also works to promote Chilean exports abroad, both in specific product areas and by enhancing the country's overall image. Finally, ProChile assists local producers in forming associations for promoting products and joint investigations of target markets.
- *Infrastructure/human capital.* Agosin argues that Chile's infrastructure in the 1970s, when the export push began, was adequate enough to support this effort, although it is perhaps less so, at least in certain respects, today. In terms of human capital, the country benefits from a wealth of local engineering and management talent. In addition, university programs established in the 1960s for the purpose of strengthening human capital in the agricultural sector ended up paying big dividends. For example, in the fruits and vegetables sector, a joint program between the University of Chile and the University of California-Davis to train agricultural economists and specialists proved to be an important technology transfer mechanism between two regions with similar climates.
- *Technology development.* Agosin cites Fundación Chile (the Chile Foundation), a non-profit corporation that started as a joint venture between the Chilean government and ITT. The Foundation's mission is to develop appropriate technologies for priority export sectors.

One of the Foundation's most interesting vehicles for technology development is to launch new companies, with the idea of selling these companies to private investors when they reach viability, rather than trying to get existing companies to adapt new technologies. As might be expected, given the risk involved in launching new ventures working with new technologies, this approach has produced some failures as well successes.

The Foundation's Web site lists the various ventures and sectors that it has supported. This information is summarized in the table below.

Ventures and Sectors Supported by the Chile Foundation

Sector	Current Portfolio	Divestitures	Comments
Biotechnology	Biogenetic		
	Genfor		
Ecotourism	Sur Austral		
Agroindustry	Grupo Itata	Procarne	
	Chevrita	Granjanova-Punto Verde	
	Agrovalle	Berries La Unión	
	Qtech	Agronova	
		Tecnagro	
		Tecnofrío	
		Granjasur	
Aquaculture	Cultivos Marinos Tongoy	Salmones Antártica	1st salmon venture; sold to major Japanese fishing firm
	Granjamar	Salmones Huillinco	
	Semillas Marinas	Salmotec	
	Seafood Resources Chile	Finamar	
	Spasa	Cultivoa Achao	
Wood/forestry	SIF	Geosig	
	Technopress	Technoplant	
		Centec	
		Ignisterra	
Systems development		Auprin	
Internet	Certifica.com	Teamwise	

The success of Chile's salmon export industry is cited by a number of observers, including Agosin, as a direct result of the Foundation's innovation program. From the first Foundation investment in the sector, in the early 1980s, salmon exports totaled almost US$700 million in 1998, and Chile is now the second-largest salmon exporter in the world.[2] This investment, in Salmones Antártica, incorporated a lake-based salmon cultivation technology developed in Norway and Scotland into Chile's southern lake region. The operation proved successful enough to generate a strong demonstration effect, driving the growth of a new sector through additional investments by both local and foreign investors. The growth of the salmon export industry has also inspired a series of backwards linkages for local enterprises (e.g., manufacturers of floating cages, feed, fishing rods, packaging materials, transportation services), as well as contributed to the development of the southern lake region.

[2] In 2002, salmon was Chile's largest non-traditional export to the United States, totaling US$290 million.

Chile's efforts in promoting technology as a means of strengthening its competitiveness go beyond the Chile Foundation. Mullin et al describe the various institutions and programs that make up Chile's National System of Innovation (NSI). Public institutions like the National Commission for Scientific and Technical Research (CONICYT) and the Corporation for Development (CORFO) have played major roles in such areas as evaluating and funding scientific research proposals and activities. The research-funded universities carry out most basic and applied research. Technological institutes, covering specific areas like agriculture, forestry and fishing (areas that continue to garner a significant portion of research funding, given Chile's comparative advantages in these and other natural-resource based industries) focus on development and adaptation.

Some programs have been successful in forging public-private partnerships. FONDEF, for example, was established by the government and the Inter-American Development Bank to tailor research and development to national needs, through partnerships between university researchers and private companies, which must help fund their project proposals. Overall, Mullin et al praise the Chilean programs for transparent project evaluation procedures, but point to the lack of coordination of science policy at the national level as a significant flaw.

In addition to the measures described above, the Chilean government has developed extensive plant and animal safety and sanitation programs, carried out primarily by the Agriculture and Livestock Service (SAG), a branch of the Ministry of Agriculture established in 1989. The SAG maintains compliance with food safety standards, through monitoring and inspection of local processing facilities and through inspection of imported foods at customs checkpoints. The Agricultural Protection Program, for example, focuses on preventing the entry of diseases and minimizing the spread of those that are discovered.

This program delivered good results in May 2002, when an outbreak of the avian flu was discovered in San Antonio province, Region V. An emergency action program enabled the SAG to test 188,000 samples taken from all of Chile's 12 regions, while halting all exports until the problem could be isolated. The SAG's rapid response, in cooperation with the private sector, enabled Chile to eradicate the flu by mid-December, an accomplishment that received international recognition. More importantly, by acting promptly and effectively, the SAG helped restore confidence among Chile's export partners, limiting the negative economic impact of the flu outbreak.

The SAG also helps exporters by certifying compliance with external phytosanitary and animal food quality and safety requirements, through monitoring of production systems and facilities using such inputs as hormones, pesticides, antibiotics, and heavy metals. The certification program started in 1987 with lamb products, before expanding to poultry and pork in 1998, turkey in 2000, and beef in 2002. This support infrastructure allows Chilean producers to respond to marketplace requirements as well as standards established by international trade agreements.

Finally, the SAG also operates a fund designed to promote innovative approaches to plant and animal sanitation, as well as organic production and other forms of sustainable agriculture. In

one project, the fund supported a program developed by a private partner, Controladora de Plagas Forestales S.A., to introduce a parasite for biological control of two pests harmful to eucalyptus trees and disseminate the technique for more widespread adoption.

Support programs for small agricultural producers are administered by the Institute for Agricultural Development (INDAP), under the Ministry of Agriculture. INDAP offers financing, technical assistance and training programs, and support for integrating small local producers into production chains and markets. Business development and management services are available through the Centers for Business Management (CEGES), a program administered and funded by INDAP in conjunction with local producer associations. The local groups develop project proposals, and, if approved, sign five-year agreements with INDAP, which provides consultants to assist the groups. Disbursements are made annually, subject to a progress review of the project.

Through an extensive network of regional offices, INDAP helps disseminate new technologies to small producer groups. Along the same lines, the Institute for Agricultural Investigation (INIA) runs an Internet-based pilot program in Region X. The Comunidad Microempresarial portal (www.comunidadmicroempresarial.cl) offers news and technical information as well as links to other technical assistance providers. Microentrepreneurs can access it through seven telecommunications centers available throughout the region.

Government programs also seek to integrate small producers into larger production chains. The Chile Foundation, in conjunction with the Ministry of Agriculture, runs a program focusing on enhancing quality among small producer groups by promoting vertical linkages between these groups and large exporters. The Supplier Development Program (PDP) is designed to maintain export competitiveness by establishing cooperative networks among suppliers and their customers, which both integrates small producers into export-oriented production chains and gives exporters the benefits, including time and cost savings, of having established relationships with reliable suppliers. Larger firms are encouraged to invest in their suppliers, along the lines of a cluster-based development strategy similar to the *keiretsu* corporate families of the Japanese auto industry.

B. Conclusions

Although Chile's reputation as a leading developing country reformer is based largely on the country's adherence to free-market principles, the reality is that the government's role in fomenting the export-led growth strategy has been far from laissez-faire. Through a comprehensive network of financial and institutional support, Chile has helped introduce new technologies that, in turn, have helped develop new export industries, such as salmon, wine and forestry products.

It is important to keep in mind, however, that these policies would have been less effective in the absence of the country's dismantling of the import substitution model. By opening its economy to the competitive forces of liberalization, the Chilean government forced the private sector to become competitive, providing, in at least some cases, effective support for this process. In turn, this policy framework has helped generate sustained economic growth while reducing poverty.

It is also important to keep in mind that Chile took the difficult steps of preparing for free trade well before it began signing bilateral trade deals, a process undertaken only recently. A trade deal with the United States, for example, was concluded in 2003. Indeed, by lowering tariff rates and eliminating non-tariff barriers unilaterally, Chile ensured that it has much to gain from such agreements, which will help its exporters gain improved access to key foreign markets. Its early adoption of the export-led growth model leaves it well-positioned to benefit from future free trade agreements.

Chile's Expectations, Fears, and Strategic Choices

Expectations/Fears	Facts	Strategic Choices	Comments
Unilateral trade liberalization, opening the economy to international competition, would lead to economic growth.	Chile averaged GDP growth of more than 6% per year between 1983 and 1999; best economic performance in Latin America.	Lowering of tariffs on imports from average of 105% in 1973 to uniform tariff of 10% on all items except automobiles in 1979. Elimination of non-tariff barriers (e.g., quantitative restrictions).	Steady period of economic growth after balance of payments crisis and economic downturn of early 1980s.
Effective macroeconomic policies and stable macroeconomic environment would be necessary to support export-led strategy.	Inflation <10% every year since 1994; averaged 3.7% per year from 1998 to 2002. Chile ranked No. 32 out of 80 countries, highest in Latin America, in Business Competitiveness Index, Global Competitiveness Report 2003-2004.	Exchange rate unification. Liberalization of interest rates. Elimination of price controls. Capital controls limiting impact of "hot money."	Consensus on importance of continuity; model has been followed by every government since Pinochet.
Technological innovations and their adaptation into the economy would be necessary to diversify export base.	Non-traditional exports in sectors where Chile has comparative advantages (e.g., salmon, wine, forestry products) have shown rapid growth since mid-1980s.	Government support for research; broad and deep institutional network to evaluate and fund programs and disseminate lessons learned. Chile Foundation established to launch new companies.	Technological adaptation has made natural-resource based industries competitive in world markets. Traditional exports like copper still play important role.
Market information would be important aspect of mobilizing local productive capacity to comply with and respond to changes in requirements of international markets.	Non-traditional exports in sectors where Chile has comparative advantages (e.g., salmon, wine, forestry products) have shown rapid growth since mid-1980s.	Government investments to support information gathering and dissemination, primarily through ProChile, which has broad network of domestic and foreign offices.	ProChile also promotes Chilean products in overseas markets.
Strong plant and animal sanitation programs would serve to protect local consumers, help develop new export markets and strengthen Chile's image in foreign markets.	Certification program has helped open new markets for beef, pork and poultry exports. Rapid response to bird flu outbreak in 2002 help limit negative economic impact.	Support for Agriculture and Livestock Service (SAG) and related programs.	

C. References

Agosin, Manuel R. "Trade and Growth in Chile." CEPAL (United Nations Economic Commission for Latin America) Magazine, 1999.

Bergoeing, Raphael et al. "Policy-Driven Productivity in Chile and Mexico in the 1980s and 1990s." Cambridge, MA: National Bureau of Economic Research, Working Paper 8892, April 2002.

Edwards, Sebastian and Daniel Lederman. "The Political Economy of Unilateral Trade. Liberalization: The Case of Chile." Cambridge, MA: National Bureau of Economic Research, Working Paper 6510, April 1998.

Fundación Chile. www.fundacionchile.cl

Government of Chile

Institute for Agricultural Development (INDAP). www.indap.gob.cl

Institute for Agricultural Investigation (INIA). www.inia.cl

Ministry of Agriculture. www.agricultura.gob.cl

Ministry of Foreign Relations. General Directorate for International Economic Relations. Free Trade Agreement between Chile and the United States, August 2003. www.direcon.cl

ProChile. www.prochile.cl

Servicio Agrícola y Ganadero (Agriculture and Livestock Service), Cuenta Pública 2002. www.sag.gob.cl

Holm-Nielsen, Lauritz and Natalia Agapitova. *Chile – Science, Technology and Innovation.* The World Bank, Department of Human Development, LCSHD Paper Series No. 79, December 2002.

International Monetary Fund, Western Hemisphere Department. *Chile: Selected Issues.* August 5, 2003.

Jadresic, Esteban and Roberto Zahler. *Explaining Chile's Macroeconomic Success in the 1990s.* IMF Research Department, March 2000.

Jeter, Jon. "A Smoother Road to Free Markets," Washington Post, January 21, 2004.

Mullin, James et al. Science, *Technology and Innovation in Chile*. International Development Research Centre, Ottawa, Canada, 1999.

SECTION II

LESSONS LEARNED: THE CASE OF MEXICO AND NAFTA

A. Introduction

When the North American Free Trade Agreement (NAFTA) took effect on January 1, 1994, many observers anticipated significant impacts, not only on the three signatory countries – the United States, Canada and Mexico – but throughout the industrialized and developing worlds. Optimists hailed the dawn of a new era, where the greater efficiencies unleashed by open markets and borders would generate greater prosperity for all three NAFTA partners. Pessimists, on the other hand, raised fears of lost jobs, displaced workers, increased illegal immigration, and declines in wages, working conditions and environmental standards.

Ten years later, NAFTA continues to generate controversy, and proponents as well as opponents of trade liberalization continue to cite many of these same arguments. While it is perhaps premature to draw definitive conclusions, trade data and other evidence provide a basis to examine the impacts of NAFTA and draw lessons, particularly for countries seeking to emulate Mexico's example and enter into free trade agreements with highly industrialized, high-income countries like Canada and the United States. Indeed, the United States just announced the conclusion of negotiations for a similar agreement with four Central American nations (El Salvador, Guatemala, Honduras and Nicaragua).

Many middle- and lower-income countries fear that trade liberalization will expose their small-scale agricultural producers to the onslaught of globalization, causing widespread dislocation for those unable to compete with larger, more efficient producers from industrialized countries. The case of Mexico shows that large farmers can adapt and compete effectively in a more open environment, while government programs can be of assistance in cushioning the potential negative impacts for small-scale producers. On the other hand, additional measures are necessary to strengthen the transition mechanisms in place for small producers.

B. Background

To establish a context from which to examine the impact of NAFTA on Mexican agriculture, it is necessary to look at Mexican agriculture in the pre-NAFTA period. One of the major legacies of the Mexican revolution, which began in 1910, centers on the *ejido* system of communal landholdings granted to small farmers in rural areas. According to the *Economist*, nearly 30,000 rural collectives were created in the post-revolution land reform, under which the government distributed over 100 million hectares formerly held by large landowners. Today, an estimated 3 million small farmers work plots averaging less than 10 hectares in size. In many cases, the boundaries for the *ejidos* and the titles to the properties are not clear, limiting the economic benefits that can be derived from the land.

Most of these small farmers have produced traditional basic crops, such as barley, beans, corn, rice, sorghum, soybeans and wheat, since the early 20th century. These basic crops represent a combined 90 percent of Mexico's agricultural output. As noted by Antonio Yunez-Naude, from

1930 until the 1980s, Mexican agricultural policy featured a heavy role by the state for these basic crops, including crop price supports to producers; subsidies for inputs (e.g., seeds, fertilizers), credit and insurance; and government participation in the processing of grains, oils and powdered milk. The government also operated retail shops for selling basic foods such as tortillas to the urban and rural poor.

In the 1980s, due primarily to two major factors – the macroeconomic crisis of 1982-1983 and full membership in the General Agreement on Tariffs and Trade (the precursor to the World Trade Organization) in 1986 and the successive Mexican administrations of de la Madrid and Salinas administrations – began to implement unilateral agricultural policy reforms, geared primarily toward reducing the role of the state, which was seen as necessary for modernizing the agricultural sector. By the early 1990s, import controls and price supports for basic crops had been eliminated, except for maize and beans, with major reductions in subsidies for inputs, credit and insurance. Along the same lines, additional reforms in the *ejido* sector ended the government's land distribution program, while the small farmers who had been working the lands were no longer prohibited from associating, renting, or selling their plots. These reforms helped begin the adjustment process that would accelerate once NAFTA took effect.

C. NAFTA Agricultural Access Policies

Under NAFTA, trade in most basic crops was liberalized beginning in 1994. Sorghum, sesame seeds, safflower, and sunflower from Canada and the United States could enter into Mexico duty-free, as well as seeds for other basic crops, such as barley, beans, maize, cotton, soy, safflower and sunflower. A system of tariff rate quotas (TRQs) was devised as a transition mechanism for sensitive products, consisting of maize, dry beans, grain and malt barley in the case of Mexico. Quotas were established for each product: Imports under the quotas have duty-free entry status, while tariff schedules would apply to imports above the quotas. Over time, both the quotas and the tariff rates were to be reduced and eventually eliminated, in 2003 for grain and malt barley and in 2008 for maize and dry beans. Mexico also gained access to the U.S. market for its agricultural exports, although sensitive products, including many kinds of fruits and vegetables, which were placed under the TRQ system.

D. U.S.-Mexico Agricultural Trade under NAFTA

In his analysis of NAFTA and its impact on the Mexican agricultural sector, Yuñez-Naude provides a table of U.S.- Mexico agricultural trade flows. According to his data, Mexican agricultural imports from the United States more than doubled from 1993 to 2001, to US$7.4 billion from US$3.6 billion, while exports to the United States increased by 94 percent, to US$5.3 billion from US$2.7 billion. Along the same lines, while imports of U.S. fruits and vegetables more than doubled in 2001 compared to 1993, at US$4.1 billion versus US$1.9 billion, Mexican exports to the United States increased by an even greater amount, to US$4.0 billion in 2001 from US$1.1 billion in 1993. Also of note, domestic production of five basic crops – barley, beans, corn, rice and sorghum – increased, along with imports, from 1994 to 2000; only wheat and soybeans declined in domestic production while showing growth in imports.

Thus, not only has overall agricultural trade between Mexico and the United States increased substantially since NAFTA took effect, but Mexico essentially has held its own, as export growth almost kept even with import growth, despite greater access to the Mexican market for U.S. producers. In at least some sectors, Mexican producers were able to improve or maintain their competitiveness versus U.S. producers, although Yuñez-Naude notes that other factors likely played a role.[3]

Examples from two agricultural sub-sectors – poultry and fruits and vegetables – illustrate the forces contributing to improved competitiveness for Mexican producers. In the poultry sector, Mayer describes how the more liberalized trade and investment regimes brought by NAFTA, along with government incentives under which all poultry investments are fully tax deductible, strengthened a process of consolidation that had begun with a cyclical downturn in the 1980s. By 2001, three firms accounted for 52 percent of Mexican poultry production, with two of these (Pilgrim's Pride and Tysons) from the United States. In addition, the major producers have begun to integrate vertically as part of their response to greater competition, such as through the acquisition or development of in-house pharmaceutical or feed capabilities. In some regions, such as Tepatitlán and Tehuacán, producer groups have begun to combine to achieve greater bargaining power and scale economies in sales and marketing.

Some smaller producers formerly involved with traditional basic crops have been able to switch to products where Mexico has more of a comparative advantage, as reflected in the growth of fruit and vegetable exports noted earlier. Compared to the poultry sector, where large producers have been able to adapt to market forces, government initiatives have been important in assisting smaller producers in the adjustment process. In addition to the unilateral reforms undertaken prior to NAFTA (e.g., elimination of guaranteed prices, reform of *ejido* sector), three major programs have been important in the post-NAFTA period:

- PROCAMPO. This program serves as the major substitute for the previous system of guaranteed prices paid by the government to producers of the major basic crops, including barley, beans, maize, cotton, rice, sorghum, soy, sunflower and wheat. PROCAMPO instead provides income transfers to producers of these crops on a per-hectare basis, even if they have switched to other crops, to facilitate their conversion to other crops. PROCAMPO started in 1993 and is scheduled to expire in 2008 with the full liberalization of agriculture under NAFTA.

- Studies cited by Lederman et al[4] regard the income transfer approach used in PROCAMPO as superior to the prior system of price supports in that prices for the crops in the program are now determined by the market, rather than by the government, reducing distortions in market forces and giving producers better information upon which to base their decisions.

[3] The Mexican peso devaluation of late 1994 favored the relative price of Mexican goods in the U.S. market, while making U.S. goods more expensive in Mexico. In addition, both economies prospered in the second half of the 1990s, so producers on both sides of the border benefited from strong consumer demand.
[4] Lessons from NAFTA, Ch. 3.

- Agricultural Marketing Board (ASERCA). The Board, created in 1991, establishes "concentrated prices" for different regions of the country for certain basic crops, primarily sorghum and wheat (but also cotton, rice and soy on an ad hoc basis). The concentrated prices are derived from international prices and transport costs. Local producers sell their output of covered crops to processors at the international (market) price, and the government reimburses them for any shortfall between the international price and the concentrated price. As with PROCAMPO, ASERCA is essentially a transition mechanism to help farmers adjust to an era when the government no longer provides guaranteed prices for their crops.

- Alliance for the Countryside. The Alliance, a series of programs launched in 1995, is designed to increase farm-level agricultural productivity. Funding for Alliance initiatives comes from producer groups as well as the federal and state governments. This "buy-in" mechanism, under which producer groups provide a significant share of program funding (an average of 45 percent of program costs in 2000), is a unique feature of the program, along with a decentralized approach under which the programs are operated at the state rather than the federal level. Major Alliance initiatives focus on crop substitution; irrigation; mechanization; improvement of pasture quality for livestock production; and phytosanitary programs for plants and animals.

  An evaluation of the Alliance by the FAO (based on a survey of program participants)[5] indicated that 500,000 producers had participated by 1999, representing about 17 percent of Mexico's estimated 3 million agricultural producers. Seventy-three percent of these participants had monthly disposable incomes of less than 3,000 pesos, while about 7 percent reported monthly disposable incomes of more than 9,000 pesos. Most of their output is sold in local markets, with an important share for self-consumption; except for participants in northern Mexico, little of their output is exported.

In terms of reconversion, the Alliance achieved some gains. About 4 percent of agricultural producers and 14 percent of cattle producers reported shifts in their outputs, while 9.5 percent of the latter group undertook a new activity. Specific programs, including ornamental horticulture, palm oil and apiculture, showed more success in reconversion. In addition, more than half of the participants achieved efficiency gains through changes in their production processes, while 44 percent reported improved quality of their output.

E. Conclusions

Mexico's experience under NAFTA can be highlighted as follows:

- While imports of agricultural products have increased, as might have been expected, exports have increased by almost as much. In some sectors, such as fruits and vegetables, exports have grown faster than imports.
- There have not been widespread declines in local production. Only two basic crops, wheat and soybeans, experienced declines in domestic production while showing growth in imports.

[5] Evaluación de la Alianza para el Campo 1998-1999.

- There has not been widespread dislocation in the rural sector. Agricultural employment appears to have remained stable, and there have been no reports of widespread migration from rural to urban areas or to other countries.

Lederman et al[6] point to three factors to explain what they call the "surprising resiliency" of Mexican agriculture:

- A boost in demand driven by the performance of both the United States and Mexican economies during the late 1990s
- Productivity gains among Mexican producers, particularly for irrigated farms
- The Mexican government income support and subsidy programs administered during the post-NAFTA period

In fact, Lederman et al view the productivity gains among irrigated farms as a key factor in the ability of these farms to convert from traditional crops to non-traditionals, such as fruits and vegetables. Generally, larger farms have access to irrigation, while small-scale producers do not. Thus, large-farm productivity gains, whether through irrigation or through other factors (such as those indicated by Mayer in the poultry sector), appear to have played a major role in sustaining competitiveness in the Mexican agricultural sector. For smaller farmers, conversion appears not to have been as important, a finding suggested by the data from the FAO survey of the Alliance for the Countryside.

Sarmiento calls Mexico's performance in the fruits and vegetables sector "the most important success story of the first eight years of NAFTA."[7] He attributes this performance to Mexican competitive advantages in climate and the intensive use of labor in the cultivation of these products. While these factors may be true, it is hard to attribute the successful growth of these exports to small farmers; more likely, larger farmers, particularly in northern Mexico, which enjoy better infrastructure and support services, have been driving this trend.

In terms of government policies, the following lessons can be drawn:

- The unilateral measures undertaken by the government, particularly the reduction in the role of the state and the elimination of guaranteed prices for producers, were important and effective in preparing local producers for the post-NAFTA environment.
- Investment incentives, such as the tax deductions for poultry investments, have also been effective.
- The new government programs (PROCAMPO, ASERCA and the Alliance for the Countryside) have been positive, but the extent of their impact is hard to quantify. Income transfers have supported reconversion efforts, but such efforts appear not to have taken place on a large scale.
- The reforms of the *ejido* sector have not gone far enough. Sarmiento points to the extreme fragmentation of land and the lack of full property rights in the *ejido* sector as

[6] Lessons from NAFTA, Ch. 3.
[7] "NAFTA and Mexico's Agriculture," CSIS *Hemisphere Focus*, Volume XI, Issue 7, March 4, 2003.

the major structural problems in Mexican agriculture. These problems have been apparent well before NAFTA went into effect.

In terms of next steps for government interventions, the following measures would enhance the scope and prospects of small farm conversion efforts.

- *A land surveying and titling program for rural areas that would be used as a basis for establishing property rights.* Such rights, in turn, would serve as the basis for land transfers that could help producers combine to achieve economies of scale and for reactivating credit delivery to rural areas, where it has stalled since the peso crisis of late 1994. Financing mechanisms could leverage the resources available to support conversion and thereby broaden its impact.
- *Improve research and extension programs.* In the FAO evaluation of the Alliance for the Countryside, 63 percent of respondents felt that they could have received greater benefits from their program if they had received technical assistance or training, in areas such as marketing or operations. Only about a third of respondents reported having received such training.
- *Improve market information gathering and dissemination.* Many smaller producers are isolated, and, in a legacy of the era of government-set prices, are not familiar with how to access and interpret such data as price and production trends or market forecasts. The United States is ahead of both Canada and Mexico in this regard. Greater collaboration among the NAFTA partners is therefore advisable and has the additional benefit of being trade-neutral. Indeed, better information will help producers make better decisions, which should, in turn, make the markets more efficient.
- *Strengthen institutional capabilities* in the public sector as well as the umbrella groups for small producers and other key actors in civil society. Stronger institutions will strengthen Mexico's human capital and enable the country to compete more effectively.
- *Infrastructure improvements*, particularly expanded road-building in rural areas.

The table below summarizes expectations/fears, facts and strategic choices in the case of Mexico.

Mexico's Expectations, Fears, and Strategic Choices

Expectations/Fears	Facts	Strategic Choices	Comments
Lower tariff rates for agricultural imports from the United States and Canada would devastate small-scale local producers, creating widespread disruption and exacerbating poverty in the rural sector.	From 1994 to 2001, Mexican agricultural imports increased by an annual average of 6%. Agricultural exports, however, increased by an annual average of 10.2% over the same period.	Streamlining of state role and liberalization of agricultural sector on unilateral basis by Mexican government prior to NAFTA. Elimination of price supports via income transfer mechanism.	While some small-scale producers have been displaced in Mexico, this has not happened on a large-scale.
Long-term reduction in agricultural labor force.	No such reduction has been detected thus far, although data may not be very reliable. Data from Lederman et al (Ch. 4) show an increase in agricultural employment from 1995 – 1999 as Mexico recovered from the 1994 tequila crisis.	Income transfer and technical assistance programs to cushion impact of adjustment and promote reconversion of small farmers.	Programs appear to have had some success, more in sustaining incomes than in reconversion.
Decline in production of basic crops, due to elimination of production subsidies and lower trade barriers.	While wheat and especially soybean production has declined in the post-NAFTA period, output of other basic crops (barley, beans, maize, sorghum) has remained stable or increased.	Support for productivity enhancements among large farmers; technical assistance for small farmers.	Improvements in large-farm productivity have been important. Small farm programs have helped them maintain at least subsistence-level consumption.
Private credit would replace government role in credit delivery for agricultural sector.	This phenomenon has not emerged, as private credit for agriculture has been scarce since tequila crisis.	Eliminate government subsidies in rural credit delivery. Partial reforms of *ejido* sector.	More extensive reforms in *ejido* sector, such as establishment of clear titles and property rights, would enhance access to credit for small producers.

F. References

Baffes, John and Jacob Meerman. “From Prices to Incomes: Agricultural Subsidization without Protection?” The World Bank Research Observer, Vol. 13, No. 2 (August 1998), pp. 191-211.

Economist, “Pigs may fly,” Oct. 16, 2003.

Economist, “If not for NAFTA, when?” Oct. 26, 2000.

Economist, “Farmed out,” March 30, 2000.

Farm Foundation, Agricultural and Food Policy Information Systems Workshops, Al Loyns, Prairie Horizons Ltd., senior editor. Papers obtained from various years, as specified below.

2003, “Farm Policy Development and Policy Tensions under NAFTA,” March 23-26, Montreal, Quebec, Canada.

Rosenzweig, Andres. “Changes in Mexican Agricultural Policies, 2001-2003.”

2002, “Keeping the Borders Open,” March 7-9, Puerto Vallarta, Jalisco, Mexico

Knutson, Ron and Rene Ochoa. “Keeping the Borders Open: Conclusions and Recommendations.”

2001, “Structural Change as a Source of Trade Disputes under NAFTA,” February 14-17, Tuscon, Arizona.

Knutson, Ron, Al Lyons and Rene Ochoa. “Policy Options for Facilitating Change and Maintaining Competition under Conditions of Free Trade within NAFTA.”

Tweeten, Luther, Richard Gray and Salomón Salcedo. “Structure of Farming under Freer Trade among NAFTA Countries.”

Yunez Naude, Antonio. “Mexico’s Basic Crops Subsector: Structure and Competition under Free Trade.”

2000, “Trade Liberalization under NAFTA: Report Card on Agriculture,” February 16-19, San Diego, California.

Rosenzweig, Andres. “Mexican Agricultural Trade under NAFTA: An Assessment after Five Years of Implementation.”

Fry, Earl H. *North American Economic Integration: Policy Options.* Center for Strategic and International Studies, July 2003.

Lederman, Daniel, William F. Maloney and Luis Servén. *Lessons from NAFTA for Latin America and the Caribbean Countries: A Summary of Research Findings*. Washington, D.C: The World Bank, 2003.

Llambí, Luis and Tomás Lindemann. *State Reforms and the Decentralization of the Agricultural and Rural Public Sector: Lessons from the Latin American Experience*. United Nations Food and Agriculture Organization, May 2001.

Marshall, Maria I. and Thomas L. Marsh. "Endogenous Protection in the Mexican Corn and Sorghum Market." Paper prepared for presentation at the American Agricultural Economics Association Annual Meeting, Montreal, Quebec, Canada, July 2003.

Mayer, David. "Liberalization, Knowledge and Technology: Lessons from Veterinary Pharmaceutics and Poultry in Mexico." Washington, D.C: The World Bank, May 2002 (Background paper for Lederman et al study).

Sarmiento, Sergio. "NAFTA and Mexico's Agriculture." CSIS *Hemisphere Focus*, Volume XI, Issue 7, March 4, 2003.

United Nations Food and Agriculture Organization, Regional Office for Latin America and the Caribbean, "Evaluación de la Alianza para el Campo 1998-1999."

Yuñez-Naude, Antonio. "Lessons from NAFTA: The Case of Mexico's Agricultural Sector." December 2002 (Background paper for Lederman et al study).

SECTION III

THE ENTRY OF SPAIN AND PORTUGAL INTO THE EUROPEAN UNION

A. Background

When Spain and Portugal joined the European Union (EU) in 1986, both countries faced the challenge of successful modernization, of achieving standards of living and economic performance being attained throughout Western Europe. Advocates in both countries saw integration into the European economic framework as a key vehicle for their societies to become full partners in modern Europe, or else run the risk of confronting a gap between them and modern Europe that would become too big to close.

For both countries, integration appears to have yielded major macroeconomic benefits. According to an *Economist* survey of Portugal (November 30, 2000), the gap between Portuguese living standards and those of the rest of Europe shrank by about half between 1986 and 2001: In 2001, Portuguese per capita GDP, measured in terms of purchasing power parity, reached 75 percent of the EU average, compared to 53 percent in 1986. Spain, meanwhile, also showed steady improvement over the same period, although less dramatic, with per capita GDP increasing from 73 percent of the EU average in 1986 to 81 percent in 2001.

How did EU integration lead to economic growth? Some of the factors cited by the *Economist* include the opening of the Spanish and Portuguese economies to trade and foreign investment; macroeconomic stability; and integration into the Euro single currency. Another important factor centers on structural funds from the EU, which are basically transfers to the poorer member countries. Objective 1 structural funds are targeted toward underdeveloped regions within member countries, defined as regions with GDP less than 75 percent of the EU average. From 1994 to 1999, Portugal received €17.8 billion in Objective 1 structural funds, including €2.5 billion for agriculture, rural development and fisheries, while Spain received €31.1 billion, including €3.5 billion for agriculture, rural development and fisheries.[8]

Through projects in such areas as infrastructure, training and technical assistance, these funds have contributed to the per capita GDP gains noted above, but, along with integration as a whole, have produced significant structural changes on the economies of Spain and Portugal.[9] These structural changes have affected agricultural production and rural development and threaten, ironically, to widen the gap between small- and large-scale producers in Objective 1 regions. Thus, although these regions have made progress in closing the overall gap between themselves and the rest of Europe, small producers have had difficulty in adapting to the changes wrought by integration.

[8] Structural funds expenditure data are in 1999 euros and are taken from the *Second Report on Economic and Social Cohesion*, adopted by the European Commission on January 31, 2001.

[9] This argument was raised by Midelfart-Knarvik and Overman in looking at the overall European experience with structural funds.

To assess the impact of EU integration on rural development, this study will focus on the experience of the Spanish department of Andalucía, an Objective 1 EU region heavily dependent on agriculture. As an Objective 1 region, Andalucía received 4.8 billion European Currency Units (ECUs) in structural funds for the period 1994-1999. These funds supported the following agriculture-related activities:

- 1,225 km of roads built or improved;
- 36 km of new electrical lines;
- 14,160 hectares of previously irrigated farmlands received improvements;
- 4,530 hectares received new irrigation systems;
- 14,169 hectares of land were reforested;
- 2.8 million head of cattle received sanitary interventions;
- For plant sanitation programs, 380 treatment stations were established;
- 687 cooperation associations received support for their marketing programs;
- 16 regional marketing offices established;
- A variety of training courses, pilot projects and other types of training and technical assistance were supported. [10]

The Regional Development Plan for *Andalucía* 2000-2006 describes how structural funds investments have driven shifts in Andalucía's agricultural production toward the most competitive sectors (e.g., olive oil, fruits and vegetables), citing as an example the increases in irrigated lands and the use of more advanced irrigation technologies. Irrigation is seen as a big part of enhanced competitiveness, allowing producers to respond more quickly to changes in the marketplace, introduce new crops or varieties, and help maintain consistency of supply, in terms of volume as well as quality.

Delgado et al describe how greater integration into the EU has entailed new forms of organizing production and distribution in Andalucía. European multinationals, taking advantage of a more liberal foreign investment regime, have acquired large stakes in major local agribusinesses. As a result, these agribusinesses have reoriented their production, shifting from managing the entire production chain, with output destined for the local market, to becoming part of a chain producing for the world market.

Garcia gives a good example of this phenomenon in his account of the evolution of olive oil production, one of the region's major agricultural exports. After accession, the share of foreign capital among Spain's ten leading olive oil producers increased from 17 percent in 1986 to 32 percent in 2000. Driven by this foreign investment, and supported by EU structural funds, Andalucían olive oil mills undertook modernization programs, as a result of which 96 percent of the region's mills have modern production processes at present, with the remaining 4 percent adhering to traditional production methods. Garcia notes many of the benefits derived from modernization, such as increased productivity, more consistent product quality, and improved environmental management in olive oil production.[11]

[10] Data are from the Regional Development Plan for Andalucía 2000- 2006.

[11] Thanks to the modernization of the region's olive oil milling facilities, one of Andalucía's major environmental problems in its agribusiness industry, the effluent from olive oil milling, has been largely eliminated.

However, despite these upgrades, most Andalucían olive oil is exported prior to final processing and packaging, primarily to Italy, where Italian firms finish processing and produce and market the final product, thereby capturing most of the value added. This example shows how local producers have become integrated into large production chains dominated by multinationals. A parallel trend in distribution – whereby modern supermarkets and retail outlets are capturing market share from traditional mom-and-pop stores – reinforces the dynamics posed by the modernization of production: The more modern, competitive producers end up supplying the modern distribution and retail chains.

On both ends – production and retail sales – the small-scale operators who are shut out of these chains have difficulty penetrating them, with limited bargaining power, or competing against them. Thus, although the region has benefited as a whole from integration, the benefits appear to have been distributed unevenly.

Greater integration with the EU brought another significant structural change for Andalucía: A greater vulnerability to economic downturns. This phenomenon emerged in the early 1990s, when, notwithstanding the economic gains achieved in the region since accession, the Andalucían economy experienced a downturn driven by the recession that affected Europe and the other major industrialized economies in late 1990 and all of 1991.

The problems faced by Andalucía and other rural regions, brought to the forefront by the economic downturn, prompted policy makers to look at new ways to devise solutions. Ramos et al describe how, in Andalucía, a consensus-based policy process began to take shape in the early 1990s, culminating in a tri-party accord signed by the leaders of the regional government, the confederation of business and two major labor unions in May 1993. The first Agreement for the Economic and Social Development of Andalucía articulated a new framework for rural development, under which rural development is seen as an integrated process, rather than focusing just on agricultural development, although based on the awareness that agriculture will continue to have a fundamental role in the evolution of the rural sector.

The consensus that produced the tri-party accord began with various working groups created by the regional government in 1992. These groups began to institutionalize and empower various civic actors, giving them a voice in the policy-making process. More significantly, this approach dovetailed with a new EU policy framework emphasizing innovation in approaches to rural development through bottom-up, rather than top-down, project design. Programs such as LEADER and PRODER, funded primarily by the EU, with contributions from the Spanish and Andalucían government, as well as local private groups, have emphasized the input of local communities into the design and administration of development projects, through, for example, the formation of Rural Development Groups. At least conceptually, these Rural Development Groups built on the working groups established as part of the consensus formation process in Andalucía.

To illustrate some of the projects developed under this new rural development framework, the table below describes some of the LEADER initiatives carried out in various sub-regions within Andalucía.

LEADER Initiatives in Andalucía

Sub-Region	Programs/objective	Impact	Funding/source
Aracena y Picos de Aroche	For local pork products, develop "Jamón de Huelva" designation and support w/promotional campaign.	Develop international awareness of this local brand.	LEADER
Aracena y Picos de Aroche	Combine cheese production among small family enterprises.	Better quality, due to improved sanitary controls and incorporation of new technologies	LEADER
Sierra de Cadíz	Creation of Association for Quality in Food and Handcrafts Production, focusing on training, marketing, establishing quality standards for range of products, and assisting local producers in complying w/regional product standards.	Increased sales in regional market, allowing for diversification of regional economic base.	LEADER; Rural Development Group
Poniente Granadina	Diversify output and develop higher value-added local production. Creation of designation for Huetor-Tajar asparagus; although in cultivation since 1950s, designation had never been created.	Brand designation allowed for sale of frozen as well as fresh produce, expanding sales.	Local development agencies formed consortium to develop and administer programs in region comprising 3 distinct territories
Poniente Granadina	Creation of trout and sturgeon farm.	Develop reliable source of consistent quality to supply local hotels and restaurants, taking advantage of synergies w/local tourist industries.	Local development consortium
Subbética Cordobesa	In major olive-growing region, local cooperative with more than 1,800 members offers comprehensive range of services, including development of harvesting procedures to maximize quality and yield; financial and accounting assistance; supply of inputs; credit services; training; and research.	Sustains region through enhanced competitiveness of major activity (encompasses 84% of cultivatable land). New private company uses residue from olive oil production to create organic liquid fertilizers; sold throughout Spain as well as to 4 foreign countries.	Local development consortium
Guadajoz & Campiña Este de Córdoba	Creation of cooperative of local olive oil producers for management of land and irrigation practices. Use local branded olive oil to develop marketing campaign for it and derivative products (e.g., wood from olive trees to produce furniture and handcrafts). Creation of 2 Internet-based	Plant to convert olive oil extract into water for irrigation and liquid fertilizer. Development of communications channel for disseminating new production techniques to local farmers. Stronger presence in national and	Local development association

Sub-Region	Programs/objective	Impact	Funding/source
	learning centers.	international markets.	
Lecrín Valley	Programs emphasizing development of rural tourism, based on cultural and historical legacy. Part of strategy for diversifying economic base, along with agroindustrial development.	Adoption of sanitary and environmental standards for olive oil, meat and almond production, leading to penetration of new markets. New bottling plant for local mineral water.	Integration into network of other local consortia for exchange of ideas, experiences, training.
Guadalteba	Creation of Institute for Pork Development for research in production and marketing assistance. Center for Tourism Initiatives also established.	Installation of water purification systems in pork production. Reconversion of olive oil plant into inn/restaurant.	Consortium of local groups from public and private sectors

This approach has enjoyed at least some success. Not only have various follow-on initiatives been approved, but, perhaps more significantly, a whole new approach to rural development has been accepted, and an institutional framework in support of this approach has been established. Going forward, this approach is guiding Andalucía's current development planning.

B. Conclusions

Integration into the European Union has brought benefits for Andalucía, in that some progress has been made in closing the gap, as measured by per capita GDP, between the region's economic well-being and that of Europe as a whole. These benefits were anticipated and served as compelling arguments for advocates of the decision to participate in the EU (see table on next page). Structural funds from the EU have helped finance some of the investments and programs that have contributed to this progress. This progress, however, has not come without a cost, in that some of the structural changes brought by integration have widened the gap between modern, large-scale producers able to adapt and improve their competitiveness and traditional, small-scale producers that have had difficulty in doing so. Garcia, for example, describes how more advanced olive oil milling technologies have helped make production more efficient, with improved environmental risk mitigation, but, at the same time, these technologies have eliminated a substantial number of agricultural jobs.

This situation is similar to the gap between large and small producers in Mexico and how that gap widened after Mexico joined the United States and Canada through the North American Free Trade Agreement. A key difference between Mexico and Andalucía, however, lies in Andalucía's more advanced institutional development in the rural areas. Civic actors in Andalucía have been able to forge Rural Development Groups, and, in so doing, access resources to support home-grown solutions to the problems that they must confront on a daily basis. Effective support for innovation offers the promise of new solutions to long-term problems.

In the case of Andalucía, many observers have cited the need for stronger human capital formation, particularly among the small producers, which continue to represent a large segment

of the agricultural sector.[12] Stronger human capital formation will both strengthen and complement the emphases on innovation and bottom-up participation in rural development. The need for stronger human capital formation points to the need for greater efforts in education. As described by Midelfart-Knarvik and Overman, Ireland's EU experience may serve as a model. These authors contend that EU structural funds spending reinforced Ireland's competitive advantages, encouraging appropriate structural change. The key to this success lies in education, as Ireland has emphasized education and the development of a skilled labor force, giving it a comparative advantage in attracting high-tech industries, which generate greater domestic value-added than crop production. EU statistics support this argument: In 2000, 51 percent of the population in Irish Objective 1 regions had attained medium or high levels of education, compared to 22 percent in Portugal and 40 percent in Spain.[13]

It must also be noted that the EU environment will be changing in the near future, with the accession of 10 or 12 new members from Central and Eastern Europe, all of which have generally lower per capita incomes that Spain or Portugal. As a result, the pattern of transfers is likely to shift toward the new member states. This phenomenon should inspire Spanish and especially Portuguese policy makers to take advantage of the transfer mechanisms while they are available. The Irish experience may also serve as a model for the use of transfer funds in the new accession countries.

[12] In 1999, more than half of the farms in the region were less than 20 hectares in size.
[13] Data are from the *Second Report on Economic and Social Cohesion*, Appendix Table 35.

Spain's Expectations, Fears, and Strategic Choices

Expectations/Fears	Facts	Strategic Choices	Comments
Accession into the EU will increase exports to Europe, as the region's exporters benefit from elimination of tariffs and non-tariff barriers.	In 1982, 37% of Andalucían exports were to EEC. In 2002, 16 years after accession, 70% of Andalucían exports were to EU.	Accession into EU in 1986.	
Opening of local markets will lead to elimination of entire sectors of local agriculture.	In Andalucía, some crops have increased production from 1986 to 2002/3: olive oil (25%), cotton (44%), almonds (50%), asparagus (168%), oranges (85%). Other crops have had big declines: barley (-75%), beans (-63%), potato (-30%), sunflower (-29%). The share of the employed population working in agriculture has declined since accession, but this trend had manifested itself well before accession.	Accession into EU in 1986.	
Integration will lead to excessive dependence on Europe.	The EU now represents Andalucía's major export market and major source of foreign investment. Exports to non-EU countries represented 30% of total exports in 2002 and declined by 3.7% compared to 2001 (vs. 3.4% growth for EU).	Going forward, region should seek expanded promotion, marketing and commercial contacts with non-EU countries.	
Opening of local markets to trade and investment would force firms to improve their competitiveness.	Growth in per capita GDP and exports supports notion of improved competitiveness. Much of this improvement, however, limited to large, modern farming operations.	Support for innovative approaches to diversification and continued development of small producer associations and representative groups.	Problem centers on improving competitiveness of small-scale producers. Too early to draw definitive conclusions, but injection of new approaches into project design offers some promise.

C. References

Aide a la Decisión Economique (ADE). *Evaluation of the Impact of the Main Market-Organization Measures in the Olive Oil Sector, Final Report*, December 2002. Louvain-la-Neuve, Belgium.

Calatrava A., Ascensión. "Andalucía ante el ingreso en la C.E.E.: Repercusiones en su sector exportador." *Economic Bulletin of Andalucía*, No. 6, 1985 (pp. 59-68).

Commission of the European Communities, Directorate-General for Agriculture.

"Accomplishing a Sustainable Agricultural Model for Europe through the Reformed CAP—The Tobacco, Olive Oil, Cotton and Sugar Sectors." (Communication from the Commission to the Council and the European Parliament. September 23, 2003 [final report].) Brussels, Belgium.

"The Olive Oil and Table Olives Sector" (working paper)

The Olive Oil Sector in the European Union (fact sheet, June 2002)

Commission of the European Communities. Directorate-General for Regional Policy.

"Objective 1: Supporting Development in the Less Prosperous Regions" (source for statistics as cited in the text)

Second Report on Economic and Social Cohesion, January 31, 2001

Delgado, Manuel et al. "Análisis de la industria agroalimentaria en Andalucía." *Economic Bulletin of Andalucía*, No. 26, 1999 (pp. 43-59).

Economist magazine

"Drowning in a Sea of Structural Funds?" March 27, 2003.

"Survey of Portugal," November 30, 2000.

"Survey of Spain," November 23, 2000.

Gámiz, D. Antonio. "La agricultura andaluza y la Política Agraria Comunitaria." *Economic Bulletin of Andalucía*, No. 6, 1985 (pp. 39-52).

Garcia B., David. "Producción y comercialización del aceite de oliva en Andalucía," *Economic Bulletin of Andalucía*, No. 31-32, 2002 (pp. 197-207).

Midelfart-Knarvik, Karen Helene and Overman, Henry G. "Delocation and European Integration: Is Structural Spending Justified?" *Economic Policy*, October 2002. Centre for Economic Policy Research, London.

Ramos, Eduardo et al. “La agricultura y el mundo rural en Andalucía: Su evolución durante el periódico autonómico.” *Economic Bulletin of Andalucía*, No. 25, 1999 (pp. 193-202).

Secretariat of Agriculture and Fishing, Government of Andalucía, *Guide to Rural Development*, December 1999.

Wiarda, Howard J. *Spain 2007: A Normal Country?* Center for Strategic and International Studies, Washington, D.C.

SECTION IV

Lessons Learned: The Case of South Korea and Taiwan

A. Introduction

The success of the "Asian tigers" in achieving export-led economic growth is by now fairly well-known among emerging markets investors and observers. Indeed, brands such as Samsung and Acer are well-recognized, if not household names, among consumers throughout the world. What is perhaps not as well-known, however, is the success these countries have enjoyed in developing their agricultural sectors and aligning agricultural development with their overall economic growth and development strategies.

This paper explores these issues, focusing on the experiences of South Korea and Taiwan, two countries that began their agricultural sector development programs from similar starting points, although at somewhat different times.[14] Both countries spent long periods as Japanese colonies, Korea from 1910 until 1945 and Taiwan from 1895 until 1945. Japan envisioned them as food suppliers to help meet its own domestic needs, given land and resource constraints that limited Japan's agricultural capabilities. Thus, in the early 20th century, Japan established some of the bases, such as administrative structures and research and extension systems, that would later underpin the countries' own agricultural development programs.

B. Agricultural Development in South Korea

Ban provides some detail on the Japanese colonial administration in Korea. One of the earliest steps consisted of a comprehensive land survey in the 1910s, under which the location, title and ownership of each parcel of land was established. This measure created a private land market for the first time, a major departure from the prior feudal system. The farmers' right to cultivate properties, previously based on heredity, was now based on tenant rights. Other measures consisted of establishing agricultural irrigation associations and improving the agricultural statistical service and credit system.

In the 1930s, Japan began a program to increase agricultural yields, especially of rice, through various measures, including the use of chemical fertilizers, thanks to a new domestic plant. The program included irrigation system improvements; the importation of high-yielding rice varieties; and the establishment of agricultural research institutes to assist farmers in adapting to the new techniques and inputs.

Agricultural output grew in the 1930s in response to these measures, but stagnated during the 1940s and early 1950s, due to the outbreak of World War II, followed shortly thereafter by the Korean War. However, another key aspect of the foundation for South Korea's agricultural

[14] Taiwan is now referred to as Chinese Taipei in many multilateral forums, such as the Asia-Pacific Economic Cooperation (APEC). For convenience, the traditional name will be used in this paper.

growth was put in place during this period: the land reform carried out after the conclusion of World War II.

The U.S. military government decided to proceed with land reform as a way to address peasant dissatisfaction with the tenant system in the rural areas, as well as for political reasons.[15] The military administration sold off all formerly Japanese-owned rural land, about 15 percent of all farmland in South Korea, in April 1948, just before legislative elections. The plots were very small, with a maximum size of two hectares. In 1949, the Korean legislature approved a Land Reform Act extending the program to cover the rest of the country's farmland, ending the land tenure system. According to Ban, the land reform accomplished two major purposes: (i) by giving owner/operators incentives for improving their property and productivity, it helped make subsequent training and extension programs more successful; and (ii) by distributing small parcels broadly, it helped ensure a more equitable income distribution in the rural areas.[16]

According to Ravenholt, by 1954, about one-half of South Korean farmers owned the land they cultivated. Another 40 percent owned part of the land they worked, leasing the balance under protected terms. Only about 10 percent of the rural population remained as full tenants or laborers. In less than 10 years, nearly 2.5 million acres were redistributed, turning about 700,000 peasants into owner/operators.

Land reform by itself was not sufficient to propel agricultural growth, however, especially among small farmers. Other issues, including a lack of access to credit and fertilizers and the inability to deliver these services to rural areas, remained to be addressed.

Beyond the agricultural sector, the Korean economy as a whole faced chaotic circumstances in the post-war period. Krueger describes an environment featuring high inflation, a substantial difference between the official and black market exchange rates and an overall shortage economy. This environment emerged from an economic approach based on import substitution industrialization (ISI). To break the post-war chaos, the authorities implemented a stabilization program in 1958, which helped lower inflation and increased the real exchange rate. Growth, however, was still elusive.

In 1961, General Park Chung Hee, became President of Korea as a military junta seized power. His government launched Korea's export-led economic growth strategy through a comprehensive program of reforms and incentives. Highlights included a major devaluation of the won, the elimination of the multiple exchange rate regime, a reform of the budget process to reduce the fiscal deficit, and a gradual liberalization of imports. The government also undertook major infrastructure investments.

[15] See Olson, Ch. 3.
[16] Wade makes an interesting point in discussing land reform in Taiwan, which was carried out along similar lines, noting that small parcels prevented the emergence of a large, agro-export oligarchy, such as emerged in many Latin American countries.

The export drive focused on manufacturing, with agricultural development a secondary priority. Krueger notes that, notwithstanding periodic adjustments, Korea was able to maintain a fairly stable macroeconomic environment, as well as high GDP growth rates, for the next 20 years.[17]

By the late 1960s and into the early 1970s, agricultural growth had begun to trail off, and the government decided to focus on rural development, launching a new strategy to that effect. This strategy was in support of the government's goal to achieve self-sufficiency in rice production by 1975.

As described by Steinberg et al, the strategy featured four major elements:

- More favorable pricing policies for farmers. To encourage the production of high-yielding varieties of rice, farmers began to receive twice the world market price for these crops. The government, which controlled retail as well as farmer prices, kept retail the prices the same, which meant eventual large deficits for this program. Fertilizer prices, also controlled by the government, were also cut.
- Strengthening the extension service.
- Creation of the New Village movement.
- A rapid increase in rural infrastructure investments.

Steinberg et al describe the interface between public administration in the rural areas and the government's extension and research programs. This interface proved crucial in obtaining results from the research and extension efforts. Both research/extension and administration came under the management of the Office of Rural Development (ORD), which, by the mid-1970s, had offices in every county and township. Guidance officers, as the extension workers came to be known, worked almost entirely out of these offices.[18]

Research also benefited from ample coverage, with two demonstration plots for the new high-yielding rice varieties in every village, allowing farmers and extension officers to develop and benefit from specialized knowledge relating to the particular geographic and climatic conditions of their villages.

Each guidance officer was responsible for monitoring the production and cultivation techniques of 6 to 12 villages, maintaining constant contact with their small farmer clients. The guidance officers were graduates of agricultural high schools, which had curricula geared to addressing the practical needs of rural areas. The guidance officer mechanism, then, integrated not only administration with extension and research, but, perhaps even more importantly, public education with agricultural extension and research.

According to Krueger, the U.S. military government established almost universal primary education in the rural areas. Ban notes the extensive network of agricultural high schools, junior colleges and colleges in South Korea, which, by 1966, had almost 42,000 students in agricultural high schools and over 9,000 students in agricultural colleges. This educational network not only provided a supply of qualified extension officers, but also meant that a better-educated farmer

[17] This environment, in fact, lasted until the onset of the Asian financial crisis in 1998.
[18] As an example, in 1981, of about 8,000 guidance workers, only 106 worked at the national headquarters.

population would be in a better position to adapt to and implement new methods. Additional training, covering such areas as cultivation techniques, crop management and human nutrition, was provided during the winter. As a result of the extension and training programs, in the words of Steinberg et al, no family farm was untouched.

Apart from the extension and research network, supplemental services were also provided by a government agency, again with broad geographic coverage of rural areas. Steinberg et al describe the National Agricultural Cooperative Federation (NACF) as a critical arm of rural growth. The NACF assumed responsibility for rural credit as well as other services, including supplies of tractors, other mechanical equipment and chemical fertilizer; storage of grains and agricultural commodities; and marketing assistance.[19]

The New Village movement was important in expanding rural infrastructure. Under this program, each village got 350 bags of cement, to be used for building roads, bridges and the like. In exchange for the cement, the village supplied labor and covered costs. A network exchange program enabled village leaders to share experiences on how to implement the program. According to Ban, from its founding in 1971 to 1979, the program generated

- 43,000 km of village roads
- 44,000 km of farm feeder roads
- 73,000 bridges
- 347,000 hectares of reforested land

What were the results of these programs? The government was successful in achieving its goal of rice self-sufficiency in 1975, largely through the successful adoption of high-yielding varieties. However, problems also emerged. The new varieties were vulnerable to a fungal disease known as blast, as well as to colder temperatures. When these conditions emerged in 1979 and 1980, along with a more difficult economic environment in general, rice production declined by a third, while rural income dropped by 24 percent. In addition, the widespread use of irrigation, combined with fertilizers, pesticides and other agricultural chemicals, likely generated negative environmental impacts, although the extent of this impact is not clear.

C. Agricultural Development in Taiwan

In many ways, the Taiwanese experience paralleled that of South Korea. As described by Lee and Chen, during the pre-World War II colonial era, from 1923 to 1937, agricultural output increased by 75 percent, for an annual average growth rate of 4.1 percent. Major factors included increases in crop yields, driven by the importation of high-yielding rice varieties and the use of chemical fertilizers; and the expansion of cultivated land area, driven by irrigation. Irrigated land increased by 71 percent from 1921 to 1938, accounting for 62 percent of the cultivated land area. Combined with a more temperate climate than South Korea, irrigation made possible multiple cropping, the planting of more than one crop during the year, which, in turn, boosted output and productivity.

[19] ORD offices conducted research on tailoring mechanical equipment to meet the needs of small farmers. The NACF then helped deliver this equipment.

In the post-war recovery period, agricultural output picked up again, with an annual average growth rate of 4.7 percent over 1951-1960, faster than during the pre-war period, despite land constraints and the prevalence of small-scale farming. The increased output was driven by new methods of chemicals, fertilizers, and other inputs. Better crop rotation improved the multiple cropping index.

From 1960 to 1970, agricultural output growth averaged 4.2 percent per year, but began to decline during the second half of the decade. With the onset of industrialization, rural laborers began to head for urban areas, a phenomenon that helped increase agricultural labor costs. In addition, the production of domestic livestock, as well as fruits and vegetables, began to substitute for the traditional emphasis on rice and sugar production. These trends also began to emerge in South Korea.

Given the lengthy period of Japanese colonial administration, Taiwan had many of the same institutional structures that South Korea was able to employ in its own agricultural development campaign. Farmers associations, first introduced in 1900, were important in disseminating new methodologies, such as irrigation and fertilizer use. The associations were organized by administrative unit, with one per prefecture, and featured top local officials working with landlords and community leaders. Extension services evolved along similar lines as in South Korea.

Another key feature paralleling the Korean experience entailed a land reform that created a broad base of small producers. The land reform program started in 1949, implemented by the Nationalists who came over from the Chinese mainland. Land rentals were reduced, to a maximum of 37.5 percent of main crop yields from an average of 50 percent. In a second stage that began in 1952, 96,000 hectares of land were sold to workers at a price of 2.5 times the annual crop yield. The final stage of land reform entailed a land-to-the-tiller program initiated in February 1953, under which the government purchased all privately owned, tenanted holdings greater than three hectares of paddy land or six hectares of dry land and resold the holdings to their tenant cultivators, who, like in Korea, became owner/operators.

D. Recent Experience in South Korea and Taiwan

Moore notes the parallels in agricultural development between the two countries and, notwithstanding the results achieved by their agricultural development campaigns, the declining importance of the agricultural sector relative to GDP. In 1953, the agriculture sector component of Taiwan's GDP stood at 34 percent; by 1981, this share had declined to 7 percent; by 1990, to 4 percent, and by 2002, to 2 percent. For South Korea, the figures show a similar trend: From 36 percent of GDP in 1961, the agriculture share of domestic production declined to 16 percent in 1981, 9 percent in 1990 and 4 percent in 2002.[20]

The agriculture share of exports has also declined for both countries: in Taiwan, from 7.1 percent in 1981 to 1.3 percent in 2002, and in Korea, from 6.2 percent to 2.0 percent over the same period. In contrast, in both countries, exports of chemicals, basic manufactures and machines/transport equipment have shown tremendous growth over the same period. In looking

[20] Data are from Moore and the Asian Development Bank.

at these figures, it is important to keep in mind that the export strategies of these countries were based on developing higher value-added exports, such as manufactured goods. Agricultural development was pursued as a supporting player, so to speak, with the lead role to be played by manufactured goods.

The agricultural development movements, in fact, were geared toward the domestic market, as Korea, for example, strove to reach self-sufficiency in rice. They were also geared toward rural development. Both countries succeeded in forging links between the agricultural economy and other domestic productive sectors. Efforts to develop rural infrastructure and expand education were undoubtedly important in this regard. Both countries also succeeded in developing, at least to some extent, rural non-farm economic activity, allowing rural workers to continue to stay on their farms while working in manufacturing or services. At least thus far, industrialization has not produced widespread rural dislocation or rural-urban migration, although, as indicated by the figures cited above, the participation of the agricultural sector in domestic production has continued to decline.

This trend raises the question of the future agricultural sector outlook for the two countries. In exploring this question, it is interesting to note an area where they appear to have followed divergent paths: tariffs on agricultural imports. According to data from Asia-Pacific Economic Cooperation (APEC), as of 2002, the average South Korean tariff on imports of agricultural goods (excluding fish) stood at 63 percent (versus 19 percent for all goods); for Taiwan, the corresponding figures are 12 percent and 7 percent, respectively.[21]

Thus, South Korea still has a ways to go in terms of lowering tariff barriers and exposing its agricultural producers to full-fledged competition. In all likelihood, the level of protection given to agricultural producers is at least partly a legacy of the hands-on, government-based approach taken to agricultural and rural sector development. One of the dangers of a government-led strategy is the structural rigidities that may result, particularly if it achieves short-term success. The impact of the Asian financial crisis on South Korea – which saw GDP decline by 6.7 percent in 1998 and unemployment jump to 7 percent from 2.6 percent in 1997 – illustrated some of the structural weaknesses of the economy, such as the high level of corporate debt, which made it vulnerable to a sudden deterioration.

A pessimist may argue that the same phenomenon could happen in the agricultural sector, if and when South Korea lowers its tariffs on agricultural imports. An optimist could respond by pointing to two phenomena: (i) Taiwan has already lowered its agricultural sector tariffs to a large degree, without, apparently, having devastated its local agricultural sector, and (ii) Korea was able to recover fairly quickly from the Asian financial crisis (GDP grew by 11 percent in 1999 and 9 percent in 2000, while the unemployment rate declined to 4.1 percent in 2000). Korea's success in rural development undoubtedly helped cushion the impact of the crisis, as, for example, some laid-off workers could find work back on their farms. While not adhering to a free trade or *laissez faire* approach, South Korea, as well as Taiwan, offers useful lessons for agricultural and rural sector development in terms of its maintenance of macroeconomic stability amidst a clear policy framework; land reform, especially the conferral of clear property rights to

[21] Simple average bound tariff rate.

small farmers; adequate infrastructural development in rural areas; administrative coverage; access to education; and the synergies between its education and research/extension systems.

Expectations/Fears	Facts	Strategic Choices	Comments
Expanded support for rural infrastructure; input subsidies (e.g., fertilizers) Farmer incomes (twice the world price for high-yielding rice varieties) and use of new techniques (e.g., irrigation, high-yielding varieties) would increase yields and output in keeping with this objective. In turn, this would boost agricultural and rural development.	Rice self-sufficiency achieved. Short-term strategy successful.	South Korean goal to achieve rice self-sufficiency in 1975, supported by variety of policy initiatives. Agricultural development strategy based on production for domestic market.	Long-term development approach also successful, as rural income increase and overall poverty levels declined. However, high degree of protection in form of high tariff rates remains in place.
Improved farmer education would facilitate adoption of new agricultural technologies and enhance ability to obtain non-farm employment, supporting export-led industrialization strategy.	Successful adoption of high-yielding rice varieties. Success in establishing economic diversification in rural areas.	In both Taiwan and South Korea, hands-on government role in extension and research services. Strong links with administrative structures and education system.	As government role in service provision has declined (e.g., no longer supplying mechanized equipment), less influence over farmers by public sector extension officers.
By eliminating or drastically reducing landlord-tenant economic relationship, land reform would create new economic dynamic, as owner-operators would have more incentive to adopt new technologies. It would also create more equitable income distribution in rural areas and more stable political environment.	Land reform generally regarded as success, in that it gave most small farmers full property rights over their holdings. Regarded by many observers as major key to overall agricultural and rural development strategy.	Land reform under which large landholdings, first Japanese and then locally owned, were divided into small parcels and then sold to those who worked land.	Dispersal of many small landholdings led to some inefficiencies, for example, in adoption of irrigation systems. This, in turn, has caused some consolidation of small holdings.

E. List of References

Asia-Pacific Economic Cooperation (APEC). www.apec.org

Asian Development Bank. Asian Development Outlook 2002: Preferential Trade Agreements in Asia and the Pacific. www.adb.org

Ban, Sung Hwan. "Agricultural Growth in Korea, 1918-1971," in Yujiro Hayami et al, eds., Agricultural Growth in Japan, Taiwan, Korea and the Philippines.

Handelman, Howard. Politics of Agrarian Change in Asia and Latin America. American Universities Field Staff, 1981.

Hayami, Yujiro and Vernon Ruttan. Agricultural Development: An International Perspective. Baltimore, MD: Johns Hopkins Univ. Press, 1985.

Hayami, Yujiro et al, eds. Agricultural Growth in Japan, Taiwan, Korea and the Philippines. Honolulu, HI: University Press of Hawaii, 1979.

Korea Development Bank. Korea's Economic Reforms. www.kdb.co.kr

Krueger, Anne. "Contrasts in Transition to Market-Oriented Economies: India and Korea," in Gordon White, ed., Developmental States in East Asia.

Lee, Teng-hui and Yueh-eh Chen. "Agricultural Growth in Taiwan, 1911-1972," in Yujiro Hayami et al, eds., Agricultural Growth in Japan, Taiwan, Korea and the Philippines.

Luedde-Neurath, Richard. "State Intervention and Export-Oriented Development in South Korea," in Gordon White, ed., Developmental States in East Asia.

Moore, Mick. "Economic Growth and the Rise of Civil Society: Agriculture in Taiwan and South Korea," in Gordon White, ed. Developmental States in East Asia.

Olson, Gary. U.S. Foreign Policy and Third World Peasants: Land Reform in Asia and Latin America. New York: Praeger Publishers, 1974.

Ravenholt, Albert. "Rural Mobilization for Modernization in South Korea," in Howard Handelman, ed., Politics of Agrarian Change in Asia and Latin America.

Rosegrant, Mark W. and Peter B.R. Hazell. Transforming the Rural Asian Economy: The Unfinished Revolution. Oxford University Press, 2000.

Steinberg, David I. et al. Korean Agricultural Research: The Integration of Research and Extension. AID Project Impact Evaluation No. 27, Jan. 1982.

Korean Agricultural Services: The Invisible Hand in the Iron Glove; Market and Non-Market Forces in Korean Rural Development. AID Project Impact Evaluation Report No. 52, Mar. 1984

Wade, Robert. “State Intervention in Outward-Looking Development: Neoclassical Theory and Taiwanese Practice,” in Gordon White, ed., Developmental States in East Asia.

White, Gordon, ed. Developmental States in East Asia. New York: St. Martin’s Press, 1988.

Summary

Agricultural Sector Transition to Free Trade — Lessons Learned: Summary of Four Case Studies

This series has examined the agricultural sector and rural development strategies and experiences of six countries – Mexico, Chile, Spain/Portugal and South Korea/Taiwan – in an attempt to distill the similarities and differences and thereby draw lessons useful for other countries that have begun or are about to undertake the process of exposing their agricultural sectors to the forces of markets and competition. The transition to more open trade regimes always entails adjustments for local producers, especially in countries that employed large degrees of protection or subsidies prior to their market-opening programs.

Such adjustments are never easy, especially since many of those who must make them have scarce resources, in terms of savings, education, or alternative economic opportunities, with which to do so. The good news is that government interventions and support programs can be helpful in this process, even for small-scale producers.

The attached table presents an evaluation of the strengths and weaknesses in each country's policies under a set of common parameters under two broad headings, macroeconomic reforms (i.e., at the level of the general economy) and sector-level reforms focusing on agricultural sector and rural development strategies.

Lessons Learned: Keys to Successful Reform

It is always ambitious, if not dangerous, to assume a "one size fits all" approach in distilling the experiences of different approaches to reform. However, there are common elements to success that can be drawn upon as a guide to future such reform programs.

Based on the summary presented above, the following keys to success can be identified:

Macroeconomic stability — Factors such as stable inflation, currency values and growth make investments more feasible, as well as less risky, and stimulate confidence for domestic and foreign investors. One of the factors driving economic integration stems from the potential stabilizing effects of closer economic ties. Spain and Portugal, for example, have benefited from being part of the Euro zone. Other countries, such as El Salvador and Ecuador, have tried to eliminate the uncertainty and potentially destabilizing effects of major devaluations by adopting the US dollar as their official currency, even though they do not have free trade agreements with the United States (although both countries belong to regional framework agreements to be negotiated this year). Mexico has achieved greater stability even though it has not adopted the dollar as its official currency through its closer economic ties with the US, which has helped to attract foreign investment and stabilize the value of the peso (which has even appreciated versus the dollar recently). Chile, South Korea and Taiwan all have had success in export-led growth strategies, with macroeconomic stability an essential foundation for those strategies.

Clear property rights in rural areas — The Asian experience is instructive in this connection. Although derived from the unique circumstance of a long period of colonial occupation, the titling programs and then subsequent land reforms in South Korea and Taiwan created a community of small landholders with clear incentives to undertake the investments necessary to improve their properties and productivity. Although the literature does not cite land titling or reform in the cases of Chile, Spain and Portugal, it is clear that their systems are sufficiently effective so as not to serve as major impediments to rural investment, since such investments have taken place for both small and large landholders. In Mexico, on the other hand, lack of titling in the rural sector, a legacy of the ejido system, continues to have a dampening effect and will eventually need to be addressed for rural investments to increase significantly.

Effective education systems — Again, the Asian experience provides a useful example. Rural residents have benefited from strong primary and secondary school coverage in rural areas, as well as an extensive network of specialized technical schools in agriculture. Chile has developed strong university-level education and research programs as well, although primary and secondary school coverage are probably not as strong as South Korea or Taiwan. A better-educated work force encourages investment and makes research and extension programs more efficient. It also will become increasingly important in competitiveness, as the more demanding consumers require higher quality, which, in turn, requires careful attention to a host of quality-preservation techniques throughout the production chain. Finally, a better-educated rural work force will facilitate diversification in rural economies, as workers will be in a better position to transition to non-farm economic opportunities, and investors will be more attracted to a potentially more productive labor force, particularly for higher value-added generating investments.

Support for rural institutional networks — The country case studies highlight different approaches, but the success of small-scale producers in such key areas as adapting new technologies and creating more value-added on-site stemmed largely from the ability to function in groups. Spain is a good example, as the government initiated technical assistance programs to assist cooperatives prior to EU accession, which created a model for the expansion of these programs when further EU resources became available. In South Korea and Taiwan, the well-developed administrative structures for governing rural areas served as an effective platform for research and extension programs. Chile achieved success in promoting technologies that facilitated the emergence of competitive export industries, such as salmon and wine, through a strong network of government institutions covering rural areas, as well as ample public funding of training, technical assistance and direct investments.

Funding/credit delivery — This area offers interesting lessons, based on the different country approaches. In Mexico, the government decided to abandon inefficient directed credit programs as part of its pre-NAFTA agricultural sector reforms. Income support programs like PROCAMPO and ASERCA have no doubt helped fill part of the void created by the withdrawal of directed credit, but private lending has not emerged as a viable financing mechanism for modernization or other productivity-enhancing investments. This situation suggests that the Mexican government must either take measures to stimulate private lending, such as further ejido reforms in the area of titling so as to establish clear property rights, or become more involved in funding innovation programs, using a model like the Chile Foundation. While all of the other

countries appear to have had similar problems in a lack of private financing for rural sector investments, the governments have continued to play a direct role in allocating resources for technology, training, technical assistance and infrastructure. If the Mexican government does not have sufficient resources for this type of role, then a proper policy framework for incentivating private sector financing in rural areas becomes even more important.

These factors are not meant to be all-inclusive, but to indicate some of the common features of the agricultural sector policies pursued in the countries studied. The adoption of these policies will not guarantee success, but do suggest that government has a significant role to play in the adjustment process underlying the opening of agricultural sectors to market forces. It is interesting to note the strong hand of government even in countries with reputations as advocates of strong free-market philosophies, such as Chile.

Summary Table

	Mexico		Chile		Spain/Portugal		South Korea/Taiwan	
Macro-level reforms	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**
Macro stability/ reform sequencing	Movement to open economy forced local producers to face competition; transition periods for sensitive agricultural sectors.	Key economic sectors (e.g., energy) still protected; contributes to weak infrastructure and services in rural areas.	Economic opening, featuring unilateral reductions of tariff rates and non-tariff barriers, prior to regional and bilateral trade agreements. Exchange- and interest-rate adjustments to control inflation, create stable environment.	Too-sudden economic opening produced balance of payments crisis and big economic slump in early 1980s. Temporary increase of tariff rates before resumption of downward trajectory.	Economic opening to trade and investment w/EU entry.	Certain sectors remain highly protected under Common Agricultural Policy.	Export-led growth strategies adopted in 1960s, featuring fiscal and exchange-rate reforms and gradual liberalization of imports. Maintenance of stable macro environment.	Agricultural expansion programs at first geared toward domestic markets. Taiwan has largely liberalized tariffs on agricultural goods, but South Korea has not. Extensive price controls and other subsidies put pressure on public sector budgets.
Export incentives/ assistance for exporters	Not major factor; increased access to US market has served as driver of investments; Mexico negotiating regional and bi-lateral trade deals.	Not major factor.	ProChile branch of Ministry of Foreign Relations produces market studies, other info for exporters. Network of 32 foreign offices. Agriculture and Livestock Service (SAG) plays strong role in maintaining local producer compliance w/int'l sanitation & food safety requirements; certifies product quality for overseas buyers.	Drawback mechanism classified as subsidy by WTO; scheduled for elimination in 2002.	Not major factor.			Export strategies more focused on manufactured goods than agriculture.

	Mexico		Chile		Spain/Portugal		South Korea/Taiwan	
Macro-level reforms	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**
Foreign direct investment (FDI) regime	Post-NAFTA liberalization encouraged investment in key sectors, improving competitiveness.	Small producers not able to attract FDI, therefore do not benefit.	Lowering of barriers to FDI as part of economic opening. Regime structured to discourage rapid repatriation of foreign funds.		Opening to EU members helped drive agriculture-related FDI.			Not major factor in agricultural sector.
Physical infrastructure	Large-scale irrigation projects; some improvements in port facilities.	Rural road networks still have weak coverage.	Strong in 1970s, 1980s w/onset of export drive.	Improvements/upgrades needed.	Extensive support from EU structural funds, covering roads, electricity, irrigation & other areas. Facilitated integration of large as well as small scale producers.		Extensive public investments in roads, ports, irrigation systems.	
Agricultural support programs/market distortions	Reform of agricultural programs prior to NAFTA. PROCAMPO bases income support on amount of land rather than amount of production; decoupling of income support from production decisions strengthens role of market forces, reduces prospects for over-production. ASERCA also based on decoupling.	Covers most basic crops, but not maize and beans.	Programs geared more toward support for training, investment and new technologies, rather than income support.	Sensitive sectors still protected (e.g., sugar).	Different degrees of intervention, depending on sector. Minimal for fruits and vegetables; more extensive for olives.	Products under Common Agricultural Policy (e.g., sugar, cereals, beef) offer limited export potential within EU market; little incentive for producers to modernize.	Broad-based, thorough agricultural intervention programs to increase yields and output prior to macro reforms.	Extensive gov't price controls, for both inputs and outputs. Sustainability of agricultural model, w/environmental impact of extensive irrigation, chemical use and high land use. Also, competitiveness of local producers in protected sectors (e.g., rice).

	Mexico		Chile		Spain/Portugal		South Korea/Taiwan	
Sector-level reforms	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**
Rural education/human capital development		Lack of investment; poor primary school coverage in rural areas. Secondary, technical and university-level training also not as strong as in other countries.	Strong university and secondary agricultural education.	Need for better primary school coverage.	Good vocational/technical training, facilitated by effective cooperative movement.	Poor primary and secondary coverage in rural areas compared to EU averages.	Excellent primary and secondary education coverage. Strong specialized education in agriculture and secondary and university levels. Well-educated rural labor force facilitated development of non-farm economic alternatives in rural areas.	
Property rights	Partial reform of *ejido* sector.	Reforms not complete; lack of clear property rights in large portions of rural areas.	Not major factor.		Not major factor.		Extensive land titling and reform programs established broad-based income distribution, as well as clear property rights for small producers, incentivating investments in land and productivity improvements.	

	Mexico		Chile		Spain/Portugal		South Korea/Taiwan	
Sector-level reforms	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**	**Strengths**	**Weaknesses**
Access to credit	Elimination of directed credit programs.	Private lenders and financiers have not filled vacuum created by cessation of gov't programs.	Extensive funding for innovation and training through several gov't agencies. INDAP offers financing in conjunction with training and TA.	Sustainability of these programs without greater private sector involvement, particularly at small producer and micro levels.	Facilitated through cooperative movement. Mostly government-based.	Sustainability of these programs without greater private sector involvement, particularly at small producer and micro levels.	Credit available thru gov't agency, Nat'l Agr. Coopera-tive Federation (Korea); similar approach in Taiwan.	Sustainability of these programs without greater private sector involvement, particularly at small producer and micro levels.
Research & extension programs	Alliance for Countryside designed to increase farm-level productivity; initiatives from producer groups as well as federal and state governments.	Limited coverage (about 17% of agricultural producers as per FAO survey).	Strong research at university level. Strong public support and funding for technology-related, incubator investments. Sector-specific technology institutes. Good public-private partnerships.		New technology diffusion facilitated by effective cooperative movement; key to expanding production and meeting consumer-driven quality standards. Also, public/private partnerships for supporting research centers.		Well-organized administrative system, supported by specialized education system, ensured broad coverage.	
Rural institutions/networks		Cooperative movement not as developed as other countries. Hampers R&E &credit delivery on both supply and demand side.	Programs for small producers administered by INDAP, including financing, TA, training & business mgmt. services. Good coverage through network of rural offices. Focus on integration of small producers into larger production chains.		TA support for small producer coops by Spanish gov't prior to EU entry; expansion of programs w/additional EU resources. Big factor in quality control, marketing, logistics; helped create success in fruits & vegetables exports.		New village movement in South Korea prompted new round of investments and support programs in early 1970s.	